

DOCKETED

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IN THE UNITED STATES DISTRICT COURT FOR THE
SOUTHERN DISTRICT OF NEW YORK

Midway Manufacturing Company :
vs. : 24 Civ 1657 CBM
The Magnavox Company : Deposition of William
and : L. Harrison, second day
Sanders Associates, Inc. :

74C1030

IN THE UNITED STATES DISTRICT COURT FOR THE
NORTHERN DISTRICT OF ILLINOIS, EASTERN DIVISION

The Magnavox Company, et al : Consolidated Actions
vs. : 74 C 1030 -
Bally Manufacturing : 74 C 2510 ✓
Corporation, et al : 75 C 3153
75 C 3933

Deposition taken pursuant to
subpoena and notice at the office of Sanders Associates,
Spit Brook Road, South Nashua, New Hampshire, on
Wednesday, March 17, 1976, commencing at 11:15

FILED

OCT - 8 1976

ERNEST W. NOLIN & ASSOCIATES
General Stenographic Reporters
369 ELGIN AVE., MANCHESTER, N. H. 03104
TELEPHONE: 623-6906

U.S. DISTRICT COURT
NORTHERN DISTRICT OF ILLINOIS

ORIGINAL

o'clock in the forenoon.. 11:00 AM

as a witness in this case. PRESENT: Mr. J. L. ...

For Midway Manufacturing Company
and Bally Manufacturing
Corporation:

Mr. Donald L. Welsh, Esq.

For Atari, Inc.:

Edward S. Wright, Esq.

For Sanders Associates, Inc., and
Magnavox Company:

James T. Williams, Esq.

For Sanders Associates:

Louis Etlinger, Esq., and

Richard L. Seligman, Esq.

Stenotype Reporter: ...

Barry G. Nolin, C.S. Reichen of

the screen, along a horizontal

line, and you'd action up to page 12 of that

to page 12 as Exhibit 22. I just ask

what you did test in your

the television game project,

to refresh your recollection, to

Mr. WILLIAMS: Which exhibits?

Mr. WELSH: 16 and 22. I said that,

WILLIAM L. HARRISON
called as a witness in behalf of Midway Manufacturing Company
and Bally Manufacturing Corporation, having been previously
sworn, was examined and testified further as follows:

MR. WELSH: I would remind you that
you are and will remain under oath during the entire
period that your deposition is being taken.

(By Mr. Welsh.) THE WITNESS: Yes, sir.
(Interrogatories by Mr. Welsh)

Q. When we adjourned yesterday I believe that you had
been referring to Exhibit 16 and had discussed on page
23 of that exhibit the use of the IG-62 Heath generator
to modulate an RF carrier to obtain horizontal bars, or
at least division. You were working on division of
the screen, splitting of the screen, along a horizontal
line, and I believe you'd gotten up to page 26 of that
exhibit, also to page 13 of Exhibit 23. I now ask
if you would please tell us what you did next in your
work in connection with the television game project,
referring, if needed to refresh your recollection, to
these two exhibits.

MR. WILLIAMS: Which exhibits?

MR. WELSH: 16 and 23. I said that,

but I think he's been going through and found that that was a little farther beyond the work he had done.

Q. Yes, page 20. THE WITNESS: I, apparently, tried to incorporate a circuit that would chop the relatively low frequency video signal to improve on the poor low frequency response effect that I was seeing on the TV display at this time?

Q. (By Mr. Welsh:) And how did that poor response manifest itself? of the flow of events, and that

A. As far as I can tell from my notes here, it improved it, minimized it, but did not correct it as such.

Q. What did you see on the screen that you were trying to correct? you worked on later?

A. Where the field split, went from black to white or from white to black, from black to white, the white area would be bright where the change took place and would be approaching back to black at the bottom of the screen. transistor-type of oscillator, which was

Q. What did you do next? ilior to the one used in I.G.

A. Well, at the same time, I guess, I included an operational amplifier to make summing of the sync

Q. And video easier in that I wouldn't have level upsets due to one versus the other.

Q. Were you referring to one of the pages of these exhibits? Of that exhibit?

A. Yes, page 26 of Exhibit 23 may not have been

Q. Of Exhibit 16? Of that particular time. I think it

A. 16, yes, sir, that.

Q. As I understand it, you were still working with black and white at this time? Pierce oscillator?

A. Yes, sir. Exhibit 23, page 12, I don't think is

Q. in the right location of the flow of events, and that particular page is not dated. It is a discussion of the

Q. What leads you to that conclusion? That is correct?

A. It has a different summing amplifier.

Q. Something you worked on later? That is the witness

A. As I recall, that would be the case.

Q. Will you tell us what you did next?

A. Apparently, next I was instructed to work on producing

A. color, a color signal. I started by making a field

Q. effect transistor-type of oscillator, which was a

A. Pierce oscillator similar to the one used in the I.G.

Q. 62 -- that is on page 27 in Exhibit 16, and on page 28, apparently, some date irrelevant to this oscillator.

Q. Is that work also represented in Exhibit 23 or indicated? Chronologically with respect to the dated

A. Yes, sir.

11 Q. What pages of that exhibit?

A. What is on page 13 of Exhibit 23 may not have been representative of that particular time. I think it is sometime other.

12 Q. Page 13 of Exhibit 23 does relate, however, or does contain a notation of a Pierce oscillator?

A. Yes, sir.

12a Q. And is that a diagram of such an oscillator underneath the notation, or is that a diagram of the oscillator you've been trying to construct?

17 A. I don't understand.

(Document handed to the witness by Mr. Welsh.)

13 Q. (By Mr. Welsh.) That's a circuit diagram under the notation "Pierce Oscillator"?

17 A. Yes, sir.

14 Q. Is that a diagram of a Pierce oscillator?

A. I believe so, sir.

15 Q. As I recall the testimony of Mr. Baer with respect to Exhibit 23, it is possible that some of the

A. undated loose sheets in that exhibit may be out of order chronologically with respect to the dated

sheets in case that might cause you some confusion at some point. If it is possible to refer to the dated sheets to refresh your recollection without going to the undated ones, perhaps that would be simpler. to work on a further improvement of it.

A. I next worked on a phase shifter to give me chroma-phase shift such that I might be able to control the color presented on the screen. Did you --

16 Q. Do any particular pages of Exhibit 16 and 23 relate to that work? General result you were trying to

A. Page 23-13, 23-16, 23-18, 13-19.

17 Q. 23-17 does not display a colored area, is that right?

A. Not the phase shifter, itself. Over the color.

18 Q. What happened with respect to the phase shifter work?

5/4/76 W.L.N. A. It, apparently, yielded me zero to ^{ninety} ~~nineteen~~ degrees

A. of phase shift, in the chroma signal, which is well.

19 Q. Is that also referred to on pages 28 and 29 of Exhibit 16? That is 23. I think it is a color signal.

A. I'm sorry. I had a change of mind. I was not sure.

20 Q. I think you were referring to 29 and 28, also, at the bottom? I could control the color.

27 A. I started off with the desire to create a zero to 360 degree phase shifter. I settled, apparently, for

one that would phase shift from zero to ninety degrees at that time. For which I believe I did.

21 Q. And you were able to obtain such a phase shift?

A. I will conclude that I did because of the fact that I started to work on a further downstream circuit.

22 Q. And what pages is the downstream circuit found?

A. Page 29, Exhibit 16.

23 Q. By "downstream circuit," what did you mean?

A. The next event. I think I did.

24 Q. What was the general result you were trying to achieve at this time?

A. That I could display a colored area, I believe, on the screen, that I had control over the color.

25 Q. You mean, a discreet area or portion of the entire screen area?

26 A. I don't recall, exactly, at this time which it was.

26 Q. Were you at this time seeking to provide a split field with two different colors or just finding a

A. way to control changing of the color on the screen?

27 A. As I recall, I was only trying to produce a field of color that I could control the hue of.

27 Q. Before going on, at this point I'd like to go back a moment to Exhibits 23-5 and 23-6. I believe yesterday

I had asked you if you knew what could be achieved with the hardware which Mr. Baer had already constructed prior to your going to work on the TV game project, and you, I believe, indicated you didn't remember. Then you started looking at these exhibits, and specifically to these two exhibits, 23-5 and 23-6. I believe you stated 23-6 was a circuit diagram of the breadboard that was present when you joined the TV game project. I wonder if by referring to that diagram and Exhibit 23-5 you are able to refresh your recollection as to what it was possible to accomplish with that breadboard.

A. Apparently, we were able to produce a variable position, vertical bar and produce this bar in color which was variable.

Q. Is there any indication that that breadboard was capable of producing an image of a spot as distinguished from the bar?

A. You are referring to page -- I mean 23-6?

Q. Yes.

A. Not that I can see at this time.

Q. Now, returning to page 29 of Exhibit 16, I believe you stated that the next thing you were working on was

the downstream circuit for trying to produce a field of colors that you could control, and which you could control the hue. Could you go on, please, as to what happened next?

A. Next I worked on a gate, an orring gate which would pass the chroma sync signal and the variable phase chroma signal. is varied.

31 Q. What page or pages does that work appear on?

A. Page 29, Exhibit 16. It appears on page 13 of Exhibit 23.

32 Q. What was the reason for or result achieved with such an or gate? MR. WELSH: I believe we've

A. Sir, I don't understand the question. For lunch.

33 Q. I say, what was the purpose of providing the or gate? What were you seeking in it? What was produced on the screen of the C.R.T.?

(The last question was read back by the reporter.) LUNCH 1:30 P. M.

THE WITNESS: The or gate performs the function of separating the first chroma signal from the chroma signal that is seen during the time of trace on the screen. By having this gate I could have two chroma signals, one used for synchronization of the chroma oscillator in the TV receiver, and the

other signal would be active during the trace time in which the color demodulators would demodulate that coded color.

34 Q. (By Mr. Welsh.) And what does that mean in terms of what the observer sees on the screen?

A. He can see a color that is a different hue as the chroma phase is varied.

35 Q. And that's over the entire screen?

A. As I recall, that would have been over the entire screen.

MR. WELSH: I believe we've reached the noon hour, so let's break for lunch.

37 (Whereupon, at 12:00 o'clock, noon, a recess for lunch was taken.)

38 Q. And that was the end of the session?

A. Yes, sir.

39 Q. Do you see AFTER LUNCH 1:30 P. M.

36 Q. (By Mr. Welsh.) Just before we broke for lunch I believe you were discussing the addition of the or gate discussed on page 29 of Exhibit 16 and also shown on page 13 of Exhibit 23. The general purpose was, or results you were seeking, was changing in

hue of the color on the entire screen as the phase shifter was varied?; these sheets, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100, 101, 102, 103, 104, 105, 106, 107, 108, 109, 110, 111, 112, 113, 114, 115, 116, 117, 118, 119, 120, 121, 122, 123, 124, 125, 126, 127, 128, 129, 130, 131, 132, 133, 134, 135, 136, 137, 138, 139, 140, 141, 142, 143, 144, 145, 146, 147, 148, 149, 150, 151, 152, 153, 154, 155, 156, 157, 158, 159, 160, 161, 162, 163, 164, 165, 166, 167, 168, 169, 170, 171, 172, 173, 174, 175, 176, 177, 178, 179, 180, 181, 182, 183, 184, 185, 186, 187, 188, 189, 190, 191, 192, 193, 194, 195, 196, 197, 198, 199, 200, 201, 202, 203, 204, 205, 206, 207, 208, 209, 210, 211, 212, 213, 214, 215, 216, 217, 218, 219, 220, 221, 222, 223, 224, 225, 226, 227, 228, 229, 230, 231, 232, 233, 234, 235, 236, 237, 238, 239, 240, 241, 242, 243, 244, 245, 246, 247, 248, 249, 250, 251, 252, 253, 254, 255, 256, 257, 258, 259, 260, 261, 262, 263, 264, 265, 266, 267, 268, 269, 270, 271, 272, 273, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 285, 286, 287, 288, 289, 290, 291, 292, 293, 294, 295, 296, 297, 298, 299, 300, 301, 302, 303, 304, 305, 306, 307, 308, 309, 310, 311, 312, 313, 314, 315, 316, 317, 318, 319, 320, 321, 322, 323, 324, 325, 326, 327, 328, 329, 330, 331, 332, 333, 334, 335, 336, 337, 338, 339, 340, 341, 342, 343, 344, 345, 346, 347, 348, 349, 350, 351, 352, 353, 354, 355, 356, 357, 358, 359, 360, 361, 362, 363, 364, 365, 366, 367, 368, 369, 370, 371, 372, 373, 374, 375, 376, 377, 378, 379, 380, 381, 382, 383, 384, 385, 386, 387, 388, 389, 390, 391, 392, 393, 394, 395, 396, 397, 398, 399, 400, 401, 402, 403, 404, 405, 406, 407, 408, 409, 410, 411, 412, 413, 414, 415, 416, 417, 418, 419, 420, 421, 422, 423, 424, 425, 426, 427, 428, 429, 430, 431, 432, 433, 434, 435, 436, 437, 438, 439, 440, 441, 442, 443, 444, 445, 446, 447, 448, 449, 450, 451, 452, 453, 454, 455, 456, 457, 458, 459, 460, 461, 462, 463, 464, 465, 466, 467, 468, 469, 470, 471, 472, 473, 474, 475, 476, 477, 478, 479, 480, 481, 482, 483, 484, 485, 486, 487, 488, 489, 490, 491, 492, 493, 494, 495, 496, 497, 498, 499, 500, 501, 502, 503, 504, 505, 506, 507, 508, 509, 510, 511, 512, 513, 514, 515, 516, 517, 518, 519, 520, 521, 522, 523, 524, 525, 526, 527, 528, 529, 530, 531, 532, 533, 534, 535, 536, 537, 538, 539, 540, 541, 542, 543, 544, 545, 546, 547, 548, 549, 550, 551, 552, 553, 554, 555, 556, 557, 558, 559, 560, 561, 562, 563, 564, 565, 566, 567, 568, 569, 570, 571, 572, 573, 574, 575, 576, 577, 578, 579, 580, 581, 582, 583, 584, 585, 586, 587, 588, 589, 590, 591, 592, 593, 594, 595, 596, 597, 598, 599, 600, 601, 602, 603, 604, 605, 606, 607, 608, 609, 610, 611, 612, 613, 614, 615, 616, 617, 618, 619, 620, 621, 622, 623, 624, 625, 626, 627, 628, 629, 630, 631, 632, 633, 634, 635, 636, 637, 638, 639, 640, 641, 642, 643, 644, 645, 646, 647, 648, 649, 650, 651, 652, 653, 654, 655, 656, 657, 658, 659, 660, 661, 662, 663, 664, 665, 666, 667, 668, 669, 670, 671, 672, 673, 674, 675, 676, 677, 678, 679, 680, 681, 682, 683, 684, 685, 686, 687, 688, 689, 690, 691, 692, 693, 694, 695, 696, 697, 698, 699, 700, 701, 702, 703, 704, 705, 706, 707, 708, 709, 710, 711, 712, 713, 714, 715, 716, 717, 718, 719, 720, 721, 722, 723, 724, 725, 726, 727, 728, 729, 730, 731, 732, 733, 734, 735, 736, 737, 738, 739, 740, 741, 742, 743, 744, 745, 746, 747, 748, 749, 750, 751, 752, 753, 754, 755, 756, 757, 758, 759, 760, 761, 762, 763, 764, 765, 766, 767, 768, 769, 770, 771, 772, 773, 774, 775, 776, 777, 778, 779, 780, 781, 782, 783, 784, 785, 786, 787, 788, 789, 790, 791, 792, 793, 794, 795, 796, 797, 798, 799, 800, 801, 802, 803, 804, 805, 806, 807, 808, 809, 810, 811, 812, 813, 814, 815, 816, 817, 818, 819, 820, 821, 822, 823, 824, 825, 826, 827, 828, 829, 830, 831, 832, 833, 834, 835, 836, 837, 838, 839, 840, 841, 842, 84

A. As I recall, may indicate something I was thinking

Q. Would you now, please, go on to note what happened next in your work on the TV game project?

A. Apparently, I do not recall at this time, but the notes indicate that I added a buffer stage after the phase shifter, and attempted to obtain zero to 180 degrees of phase shift of the chroma signal.

The notes also indicate that I was able to get one extreme stream of the pot from the blue to the other extreme, red, with green in between.

Q. What page or circuitry was of equipment that had been

A. Page 31 in Exhibit 16.

Q. And that was with the buffer?

A. Yes, sir. And how about circuit diagrams, did you usually

Q. Do you find in Exhibit 23 any indication of work on constructing it or did you do it in past pages 23 and 24 of Exhibit 23 bear the same date as pages 29, 30 and 31 of Exhibit 16?

A. I do not recall at MR. WILLIAMS: Did you say pages 33 probably would have done it in sections.

Q. First, and then once more, would you build them together and

connected them together. THE WITNESS: I do not recall what I was doing. However, these sheets, 24 and 25, well, 24, rather, may indicate something I was thinking about in the future. Have been true of the circuit.

Q. (By Mr. Welsh.) You went on to page 31 without commenting on page 30. What was indicated on page 30 of Exhibit 16?

A. I do not recall. However, it is indicated to me that that would have been a block diagram of the equipment that was constructed and possibly operating on that date. Whether you had by the date it bears, May 11,

Q. Did you have any practice with respect to making block diagrams or circuit diagrams of equipment that had been constructed? From examining that circuit, what would

A. I do not recall. With it so far as what the value

Q. And how about circuit diagrams, did you usually

A. prepare complete circuit diagrams of a system before constructing it, or did you do it in parts and then after you constructed it complete the entire diagram of the entire circuitry?

A. I do not recall at this time. However, I think that

Q. I probably would have done it in sections, wouldn't you?

Q. First, and then once you built them together and

connected them together you drew a diagram of the entire circuitry?" any color, but I'd not know.

A. Probably, yes, Sir? Diagram on page 30 of 1967.

Q. Would the same thing have been true of the block diagram? It does, Sir.

A. I do not recall, but I believe that would be a fair statement.

Q. I note attached to the back of page 31 of Exhibit 16 is a copy of the drawing -- back of page 31 which has been marked 16-31A. Do you recall from examining that whether you had by the date it bears, May 15, 1967, completed the circuitry depicted there?

A. I do not recall, but I believe that I would have.

Q. Can you tell from examining that circuitry what could

be accomplished with it so far as what the viewer saw on the TV screen was?

A. As I recall, or rather, this schematic indicates to me that you would have had a split field arrangement

which was controllable, top and bottom half, proportions, that is, and the white level would have had color associated with it that would be variable.

Q. You say a split field with variable color, top and

bottom? Now, the circuit diagrams, do they have

A. I would say just the white area. I believe the black would have blanked any color, but I'm not sure.

49 Q. Now, does the block diagram on page 30 of Exhibit 16 relate to the schematic of Exhibit 16-31A?

A. I believe it does, sir.

50 Q. In other words, they are both of the same system?

A. Yes, sir.

51 Q. I call your attention, also, at this time to page or sheets No. 78 of Exhibit 23 and ask if that has any

A. relation to Exhibit 16-31A? They appear to bear the same date, and it would appear that 16-31A might have been copied from 23-78 and then something added to 23-78. Do you recall that?

A. Yes, sir. recall.

52 Q. Is that a fair characterization? It happened to be

A. Yes, sir. The development so far as your work was

53 Q. Is the schematic of Exhibit 23-78 a more complete

A. version of what is in 16-31A and in 16-30?

A. It is more complete in that it has signal handling notations associated with it and the order of events.

54 Q. But the individual elements are the same?

A. Yes, sir. I believe they are the same.

55 Q. Having seen the circuit diagrams, do they have any

significance as to representing any particular stage of development of the TV games? That is, did it

A. I think at this point in time we were, probably, just trying to build a breadboard piece of equipment that we could produce an indication on a TV screen that we remotely had control of the symbol, whatever it may have been. I think the loose ends were with

Q. Was this circuitry capable of producing a symbol other than a split field? Clear or clearer.

A. I don't believe so. enter in the logbook, Exhibit 16,

Q. I see that Mr. Baens signed his name on Exhibit 23-78 on May 15, 1967, the same date that appears next to your name. Do you recall his signing that drawing?

A. I do not recall.

Q. Could you now go on and tell us what happened next in the TV game development so far as your work was concerned as to what should go into the logbook,

A. Sir, earlier I believe I stated that these may not

A. be in chronological order, and I believe that I could possibly make a mistake in the exact order of events, if that is true, without going through every page of

A. this book every time I make the next move. each in

Q. I understand. I'm not sure I asked, but there seem

Q. To be some entries in Exhibit 16 which are similar to information on the sheets of Exhibit 23, and then the sheets of Exhibit 23, some of them contain additional material that is not entered in Exhibit 16. What determined what portion of your work went into Exhibit 16 and what portion did not?

A. I do not recall. I think the loose leafs were work sheets, and then I was careful to make the entries in the log, probably, clear or clearer.

60 Q. Did you attempt to enter in the logbook, Exhibit 16, work of an insignificant nature vs. experimental work or things that did not work? Do you recall if you had that kind of a distinction as to what went into the logbook?

A. I do not recall.

61 Q. Do you recall any specific instructions that Mr. Baer gave you as to what should go into the logbook, Exhibit 16?

A. I do not recall.

62 Q. So far as chronological order is concerned, the entries in Exhibit 16 are in such order, are they not?

A. I find some data that is dated 17 June attached in this book before 15 June. Should I move it or --

- 63 Q. No, I'd leave it in the same order. How about the,
 entries on the pages, they're all in the proper
 65 Q. order, are they not, chronologically? or at all?
 doubt that the even MR. WILLIAMS: You mean pages
 bearing print numbers? the printed numbers on Exhibit 16?
 16? MR. WELSH: Yes, the bound pages of
 the book, than it may have been done by mistake.
 67 Q. Could you now refer THE WITNESS: 16 Yes, sir. Of all,
 64 Q. South that even if the sheets of Exhibit 23 may not be,
 necessarily be in chronological order, at least the
 entries in Exhibit 16 are? of sheets of Exhibit 23?
 A. Yes, sir, in your recollection as to what happened now?
 65 Q. So you can be sure, then, at least with reference
 A. to Exhibit 16, as to the relative order of occurrence
 of various events regarding the TV game project?
 voltage. MR. WILLIAMS: By that you mean
 66 Q. the printed pages of Exhibit 16?
 A. As I recall, I did. MR. WELSH: Yes.
 68 Q. What was the result? THE WITNESS: May I have the question
 A. again, please? Exhibit 23-16 indicates that with 100
 volts applied to the (The last question was read back
 by the reporter.) With zero volts, the delay was 11
 milliseconds, and with THE WITNESS: I cannot be perfectly

sure. However, we tried to keep fairly good notes,
so I believe they probably are.

Q. (By Mr. Welsh.) Do you have any reason at all to
doubt that the events occurred in the order in which they
appear on the pages with printed numbers in Exhibit
16? Split screen would have changed position as to

A. None other than it may have been done by mistake.

Q. Could you now refer to Exhibit 16 -- first of all,
would you tell us what occurred next in the development,
and if you do not recall, would you refer to Exhibit
16 and correspondingly dated sheets of Exhibit 23
to refresh your recollection as to what happened next
in the TV game project? Able resistor.

A. The next step as indicated in Exhibit 23, page 26,
was to control the vertical delay multivibrator by
voltage. I believe it could.

Q. Did you do that? Was it on sheet 23?

A. As I recall, I did. variable resistor to the vertical

Q. What was the result?

A. The data in Exhibit 23-16 indicates that with minus 6
volts applied to the timing resistor, the delay was

3 milliseconds. With zero volts, the delay was 11
milliseconds, and with plus 9 volts, the delay was

13 milliseconds, but I believe it is.

90 Q. Delay of what? My recollection of a sample rate delay.

A. The output of the delay multivibrator.

91 Q. What effect did that have, if any, upon what was seen

on the screen of the television set?

A. The split screen would have changed position as to

100 where the split occurred. Is that suggestion?

92 Q. You mean the vertical position of the split?

101 A. Yes, sir, have any recollection in that regard at all?

93 Q. Is the circuitry for doing that shown in Exhibit 23-78? on the job.

102 A. Exhibit 23-78, the circuitry shows that the time delay was controlled by a variable resistor of the split on

94 Q. So that that time delay could be varied with the the circuitry of Exhibit 78?

A. Yes, sir, I believe it could.

195 Q. And what resistor was that on Exhibit 23-78?

A. There is a 100K ohm variable resistor in the vertical delay multivibrator.

196 Q. That is at the left center portion of the exhibit?

A. Yes, sir, at that time.

197 W.H. Q. And that resistor was ^{to vary} varied to the vertical position
4/25/76 of the split change position? Look familiar to me.

A. I do not recall, but I believe it did.

Q. Do you have any recollection of a pumping game played on the circuitry of the TV games?

A. Yes, sir.

Q. Who suggested such a game?

A. As I recall, it was Mr. Baer.

Q. Do you recall when he made that suggestion?

A. No, sir.

Q. Do you have any recollection in that regard at all?

A. It may have been in his previous notes prior to my coming on the job.

Q. Do you recall his suggesting that in connection with your changing the vertical position of the split on the television screen by varying the resistor in the vertical D.M.V.?

A. I do not recall as to the existence of the pages.

Q. You have no recollection of that at all?

A. I do not recall talking to him as such. However, I believe it happened.

Q. At that time?

A. On or about that time.

Q. What is the basis of your belief?

A. These circuits and diagrams look familiar to me.

106 Q. And you believe that what you put on them at the time
was what actually happened?

A. I believe so. answer, and I am asking if reading that

107 Q. Do you have any reason to doubt it? as to what occurred

A. No, sir. from the entries on the pages.

108 Q. Does it refresh your recollection at all to see
these diagrams and the entries that you made on these
notebook pages of Exhibit 16 and the other loose pages
of Exhibit 25? I am asking if, generally, having

reviewed the pages of Exhibit 25, does that review refresh
your recollection as to what?

MR. WELSH: As to what appears
on those pages, of course.

MR. WILLIAMS: Well, I wouldn't
say of course. Seeing the pages, obviously, refreshes
your recollection as to the existence of the pages,
it would seem to me.

109 Q. (By Mr. Welsh.) And how about as to the existence
of what is on the pages?

MR. WILLIAMS: I think you should
ask him as to specific facts and not as to a whole
general category of documents.

112 Q. I don't believe MR. WELSH: He has been answering

every question starting out with the phrase "I do not recall" today, and then his proceeding to make some equivocal answer, and I am asking if reading these pages refreshes your recollection as to what occurred as appears from the entries on the pages.

as to the occurrence of the events. MR. WILLIAMS: I think you should ask him as to specific facts, not as to everything on each page. What is meant by occurrence of events.

110 Q. (By Mr. Welsh.) I am asking if, generally, having reviewed the pages up to page 32 of Exhibit 16 and

111 other pages of Exhibit 23, has that review refreshed your recollection as to the occurrence of the events indicated on those pages?

112 A. Have you had any discussion with Mr. Harrison, if your hesitancy in answering the question is in any

113 way, related to an understanding of the question,

114 please don't hesitate to say so.

115 THE WITNESS: I believe my problem is that I can't recollect particular days as to what I see here. It is very vague because of the time span.

116 Q. (By Mr. Welsh.) Because of what time span?

117 A. Eight or nine years, or whatever it's been.

118 Q. I don't believe you've answered the question.

counsel give him an answer. MR. WILLIAMS: I think he's given an answer to the question. THE WITNESS: I do advise you not to answer that. MR. WELSH: He has not stated whether reviewing these pages of Exhibit 16 and 23 that he has reviewed thus far refreshes his recollection as to the occurrence of the events there. a week ago.

any other times? THE WITNESS: I am not sure I understand what is meant by "occurrence of events."

(By Mr. Welsh.) Well, does it refresh your recollection as to the events indicated as occurring?

Yes, sir.

It does? one, yes.

Vaguely, but I guess it does.

Have you had any discussions with Mr. Williams regarding giving your testimony here?

Yes, sir. Williams take?

Has he instructed you to be certain that you understand each question very carefully?

8:30 in the morning MR. WILLIAMS: I object to the questions calling for information which is protected by the attorney-client privilege.

THE WITNESS: I refuse to answer.

MR. WELSH: I don't believe I heard

Counsel give his advice, but --

Did you have more? MR. WILLIAMS: I do advise you to

not to answer that.

(By Mr. Welsh: When did your discussions with Mr. Williams take place? a week or at the end of the

Yesterday, today, and a day approximately a week ago.

Any other times? testimony in any regard.

I believe one other time a few months ago. I do not recall the date.

Was anybody else in attendance during any of those discussions? that discussion take?

The first one, yes.

Who was present? a discussion with him, also, today.

Mr. Anderson: occur?

How long did that discussion with Mr. Anderson and Mr. Williams take? occur for?

Approximately one hour.

When did you meet with Mr. Williams yesterday?

8:30 in the morning.

For how long? met with him approximately a week ago,

I do not recall one meeting?

Approximately a half hour? Do you have any recollection

at all? how did that take?

A. I don't recall.

125 Q. Did you have more than one meeting with him yesterday?

A. Not that I recall.

126 Q. Did you have any discussions with him regarding your testimony at either a break or at the end of the day?

127 A. Regarding my testimony?

128 Q. Concerning your testimony in any regard?

A. Yes, sir.

129 Q. When did that occur?

A. At the end of the day.

130 Q. How long did that discussion take?

A. A minute, perhaps.

131 Q. You stated you had a discussion with him, also, today. When did that occur?

132 A. First thing this morning.

133 Q. How long did that occur for?

A. Fifteen, twenty minutes.

134 Q. That was before your testimony began today?

A. Yes, sir.

135 Q. And when you met with him approximately a week ago, did you have just one meeting?

A. As I recall, sir. Only at the time I

136 Q. And how long did that take? recall.

- 132 A. As I recall, approximately an hour. document," to which
- 135 Q. You are named as one of the inventors of United States
- 136 Patent 3659285 which has been marked -- a copy of
- 137 which has been marked -- as Exhibit 12, are you not?
- 138 A. Yes, sir. copy of the full wrapper and contents of
- 139 Q. Did any of your discussions with Mr. Williams, include
- 140 a discussion of the application for reissue of that
- 141 patent? Attorney, at the time of testimony," and ask
- 142 if that is the MR. WILLIAMS: I object to the
- 143 question as calling for information protected by the
- 144 attorney-client privilege, and I instruct the witness
- 145 not to answer the question.
- 146 THE WITNESS: I refuse to answer
- 147 on advice of counsel. is not a proper question.
- 148 Q. (By Mr. Welsh.) Have you had any discussions with
- 149 anyone regarding the applications or application for
- 150 reissue of that patent No. 3659285? MR. WILLIAMS: You mean discussions
- 151 with other than myself?
- 152 A. I believe I did. MR. WELSH: Anyone. Anyone other
- 153 than you? did you have a discussion regarding the
- 154 reissue of the 3659285? THE WITNESS: Only at the time I
- 155 signed the document, that I recall.

138 Q. (By Mr. Welsh.) When you say "the document," to what
139 are you referring?

A. The application for reissue.

139 Q. I hand you what has been marked as Exhibit 42, a
certified copy of the file wrapper and contents of
the application for reissue of the 285 patent, and
specifically, four-page document entitled "Declaration,
Power of Attorney, and Assent of Assignee," and ask
if that is the document or a copy of the document to
which you just referred?

(Document handed to the witness
by Mr. Welsh.)

THE WITNESS: Yes, sir, it is.

140 Q. (By Mr. Welsh.) That is your signature that appears
on page 4 of that declaration?

A. Yes, sir.

141 Q. And you signed that on -- or did you sign that on
April 22, 1974, that date that appears after your
signature?

A. I believe I did.

142 Q. With whom did you have a discussion regarding the
reissue of the 285 patent at the time you signed this
document?

142 A. Mr. Seligman? Do you recall anything about the

143 Q. Anyone else? the gist of the discussion with Mr.

A. Not that I recall.

144 Q. Had you discussed the applications for reissue with

145 Q. anyone else other than Mr. Seligman prior to the time
you signed this document for reissue of patent No. 3659287?

MR. WILLIAMS: I think you used
the plural, "applications."

THE WITNESS: I do not recall, sir.

145 Q. (By Mr. Welsh.) Did you ever discuss it, the
application for reissue, with Mr. Baer?

A. I realize that I may have, but I do not recall.

146 Q. In the discussion you had with Mr. Seligman at the

147 Q. time you signed this document did he explain why the
reissue application was being filed?

A. I'm sure he did.

147 Q. Do you recall why he said it was being filed?

A. Yes, sir.

148 Q. MR. WILLIAMS: I object to the
question as calling for information which is protected
by the attorney-client privilege, and I instruct the
witness not to answer.

149 Q. THE WITNESS: I will not answer on
the advice of counsel.

- 148 Q. (By Mr. Welsh:) Do you recall anything about the
 149 discussion, the gist of the discussion with Mr.
 150 Seligman? answered the question do you believe that
 151 A. The incident is very vague. In answering the
 149 Q. Do you now have any belief with respect to the reason
 150 why, the application for reissue of patent No. 3659285
 was filed? THE WITNESS: I think to re
 151 A. May I have that back, please? that he referred to the
 last page of the doc (The last question was read back by
 the reporter.)
 152 Q. (By Mr. Welsh.) THE WITNESS: Yes, sir, it was done
 to clarify that our invention was meant to be utilized
 with any type of raster scan television display.
 150 Q. (By Mr. Welsh:) When did you first acquire that
 151 belief, without referring to the declaration?
 A. I believe I would have on April 24, 1974.
 151 Q. You believe you would have?
 A. Yes, sir, I feel that is a fair statement.
 152 Q. Do you recall, specifically, acquiring that belief on
 on that day? determine whether the application needed
 A. No, sir, or not, or the patent?
 153 Q. And, when you referred to the date, that was after
 159 referring to the declaration, was it not, that is,

the specific document? is patent No. 3659285,

A. I don't understand the question.

154 Q. When you answered the question do you believe you
acquired the belief on April 24, in answering the

A. question you referred to the document, did you not?

159 A. Yes, sir. Describe to the declaration and the statement

therein, did you not? MR. WILLIAMS: I think to be

A. accurate, the record can show that he referred to the

161 last page of the document, only, in answering that

question, or did you rely on counsel for Sanders as

155 Q. (By Mr. Welsh.) Prior to that time did you personally
have any belief that the original patent No. 3659285

A. needed clarification? It would have come to my

A. No, sir, I would not have been aware. I believe that

156 Q. Did it simply not occur to you?

162 A. That it needed clarification?

157 Q. Yes, sir.

163 A. Yes, sir, I feel that is a fair statement.

158 Q. Is it also a fair statement that you were relying on
counsel to determine whether the application needed
clarification or not, or the patent?

A. Yes, sir. Such was the situation and claims before me.

159 Q. At the time you signed this declaration for the

application for the reissue patent No. 3659285, did you also rely on counsel as to the truth of various statements that were contained in the declaration and were subscribed to by you?

A. I am not sure I understand the question.

160 Q. You did subscribe to the declaration and the statements therein, did you not?

A. Yes, sir.

161 Q. Did you subscribe to those as being of your own personal knowledge, or did you rely on counsel for Sanders as to the truth of statements which were not within your personal knowledge?

A. I'm sure the statements would have come to my knowledge via counsel or someone, and I believe them to be true.

162 Q. You did believe them to be true?

A. Yes, sir.

163 Q. Did you read the declaration before you signed it?

A. Yes, sir.

164 Q. The declaration states on the first page that you also read the foregoing specifications and claims. Did you read such specifications and claims before signing the declaration?

A. I'm sure I didn't which you were influenced by Sanders.

165 Q. I'd like to ask you now to read the declaration, and then I'll ask you some further questions. Is that all right?

A. O.K.

166 Q. I'd like to ask you now, please, to go through the declaration and point out to us which statements you had personal knowledge about, and which ones you were informed about by counsel for Sanders as of the time when you signed the declaration?

A. You want me to read the statement that I am referring to or do you want me to read the whole declaration?

167 Q. Yes, I think that would be all right. You could quote the statements. I'm asking both for statements about which you had personal knowledge and other statements about which you were informed by counsel for Sanders. Is that all right?

MR. WILLIAMS: Just so the question will be clear, there is also a possibility that he was informed of statements by people other than your counsel. Do you not mean the question to include everything?

A. Both the first and the second. I had such conversations with Mr. Welsh. Well, I believe he has said that he either had personal knowledge or he was informed by counsel for Sanders, and if there are any

statements about which you were informed by someone else, then, please, note that, also.

THE WITNESS: Well, the part that

"We declare further that said letters patent 3659285

is partly inoperative by reason of defective

specifications. That by reason of said defective

specifications the assignee of said letters patent

and the exclusive licensee of said letters patent

may both fail to gain the full benefit of our said

invention to which they are entitled. That, in

particular, on information and belief the exclusive

licensee of said letters patent has attempted to grant

licenses under both said letters patent and other

United States letters patents relating to similar

subject matter to various manufacturers of certain

coin-operated television games using the invention of

said letters patent 3659285." I was aware that,

there were coin-operated TV games out that were very

similar in their presentation of a game to our invention.

I do not recall at this time if I had seen coin-

operated TV games in public or if through a discussion

with Mr. Baer or Mr. Rusch I was made aware, and that

I recall seeing a memo from Mr. Rusch to, I believe,

Mr. Etlinger saying that he had been somewhere and had seen a coin-operated video machine which he thought was an infringement of our patent rights. "That certain type of said coin-operated television games used as a video display device either a television monitor or television receiver intended to receive broadcast signals with the radio frequency and intermediate frequency portions thereof by-passed or disabled. . That some of the claims of said letters patent 3659285 include the term 'standard television receiver,' specifically, claims 1 and 2, and some of the claims of said letters patent 3659285 include the term 'television receiver,' specifically, claims 5 and 6. The claims which do not recite a television receiver but rather, recite a cathode ray tube, specifically, claims 3, 4, 7, 8, 9, 10, 11 and 12 are inadequate to fully protect our invention, because they are other ways of different scope from the claims that recite a television receiver. That in the context of my invention and the context of the description thereof in said letters patent 3659285, I have always understood and believed television receiver and standard television receiver to mean any

cathode ray tube display incorporating circuitry for a Raster-type scan inasmuch as such displays are common to both monitors and broadcast television receivers and are, therefore, both reliable and readily available at low cost." I never knew any definition to show a difference between standard television receiver and television receiver. They meant one and the same to me.

Q. (By Mr. Welsh.) Now, I believe the question that I asked you was to point out the statements on which you relied as of your own knowledge and the statements on which you were given information by counsel for Sanders or someone else. Are the statements that you have read statements that you were relying on counsel for Sanders?

A. In part. "The exclusive licensee of said letters patent has attempted to grant licenses under both said letters patent." I would not know that other than to hear that from patent attorney, I don't believe.

Q. How about the preceding statements in that same paragraph? I believe those were included in the seventh portion you read.

A. I would have learned that from counsel, I believe.

170 Q. All of those statements prior to the next to the last line in that second paragraph on page 1 starting with "The exclusive licensee of said letters patent has attempted to grant licenses"? Did you rely on

A. What does that include, now?

171 Q. Well, you first read a portion, "The exclusive licensee of said letters patent has attempted to grant licenses under both said letters patent and other United States --" I don't think you read that far, but you did read that next to the last line and the last line, and you said you would have relied on counsel for Sanders for that statement, and then you had also read the first five lines and the first part of the sixth line of that same paragraph, and my question was:

A. I know personally of counsel for Sanders for the statements, first five lines in it and the first

Q. And you do not know that in that same paragraph?

A. I believe so.

172 Q. And how about the statement starting in the third line after the semi-colon and going down to the seventh line, specifically, "that certain of said coin-operated

television games use as a video display device either a television monitor or a television receiver intended to receive broadcast television signals with radio frequency and intermediate frequency portions thereof by-passed or disabled." Did you rely on counsel for Sanders for that?

A. I do not recall.

173 Q. I believe you've stated that you did learn that there were some coin-operated games similar to what you considered your invention. Did you know personally or were you informed by counsel either separately or in this declaration that certain of those coin-operated games used either a television monitor or television receiver with the radio frequency and intermediate frequency portions by-passed or disabled?

A. I know personally of it, but I do not know when it occurred.

174 Q. And you do not know whether it occurred prior to the time you signed this declaration, is that accurate?

A. I believe so.

175 Q. How about the next statement within the semi-colons from line 7 to line 10, that is, "That some of the claims of said letters patent 3659285 include the

term 'standard television receiver', specifically, claims 1 and 2. Some of the claims of said letters patent 3659285 include the term 'television receiver,' specifically, claims 5 and 6." Was that statement within your personal knowledge or did you rely on counsel for Sanders as to the truth of that statement?

A. I do not recall.

176

Q. With respect to the next statement within semi-colons, "That the claims which do not recite a 'television receiver' but rather recite 'cathode ray tube,' specifically, claims 3, 4, 5, 7, 8, 9, 10, 11 and 12, are inadequate to fully protect our invention, because they are otherwise of different scope from the claims that recite a 'television receiver.'"

177

Did you have personal knowledge of that or did you rely on counsel for Sanders for the truth of that statement?

A. I believe I would have. I would have relied on counsel.

177

Q. With respect to the next statement, "That in the context of my invention and in the context of the description thereof in said letters patent 3659285 I have always understood and believed 'television receiver' and 'standard television receiver' to mean

any cathode ray tube display incorporating circuitry for a Raster-type scan inasmuch as such displays are common to both monitor and broadcast television receivers and are, therefore, both reliable and readily available at low cost, as evidenced by the fact that at least some of the coin-operated games incorporate entire broadcast receivers with the radio frequency and intermediate frequency sections disabled."

Did you have personal knowledge and belief there or did you rely on counsel for Sanders for any part or all of that statement?

A. I had personal belief, sir.

178 Q. At the time the application for patent No. 3659285 was filed in August of 1969, what did the terms 'television receiver' and 'standard television receiver' mean to you?

A. It would have been one and the same to me.

179 Q. Television receiver would have been the same as a standard television receiver?

A. Yes, sir.

180 Q. Did that mean to you a device capable of receiving broadcast television signals and displaying programs

on the screen of a television set?

A. It would have included that, yes.

Q. And would that also have included, then, radio frequency and intermediate frequency sections? This is as of the time the application was filed?

A. O. K. I understand. Could you read that back, please?

(The last question was read back by the reporter.)

(The last question was read back by the reporter.)

MR. WILLIAMS: Well, I think the question is objectionable as an attempt to mischaracterize the witness' prior testimony.

MR. WILLIAMS: Excuse me. I object to the question. It is vague. It seems that the term

that is used in that question and the preceding question have different references.

MR. WELSH: No, they do not have different references. We were discussing the terms

"standard television receiver" and "television

receiver" as of the time of filing of the application

for the patent No. 3659285 in August of 1969. The

question is: whether such receivers, in order to

receive broadcast signals and display programs on their screens, would have or did include radio frequency

sections and intermediate frequency sections. I

restated the question, and I don't know if you are

objecting to this question, also.

MR. WILLIAMS: This is a new question which you are now phrasing? of the statement beginning MR. WELSH: Yes. From the bottom on page 2, "That when MR. WILLIAMS: Could you please repeat the question? in fact, cover space using television monitors (The last question was read back by the reporter.) relate frequency portions by a card or display --" did MR. WILLIAMS: Well, I think the question is objectionable as an attempt to mischaracterize the witness' prior testimony. 5 and 6.

Do you recall now MR. WELSH: You may answer the question for that statement at the time that you signed the release declaration. THE WITNESS: I, yes, sir.

I do not. MR. WELSH: If you understand it.

Would it refresh your memory? THE WITNESS: Yes, sir. those

(By Mr. Welsh.) The answer was yes, sir?

Yes, sir. so.

Thank you, let's take a break. the question, please?

Did you rely on (Whereupon, at 3:10 o'clock, P.M., a short recess was taken.) the three of the last five lines on page 2 of the declaration, which contained the statement, "I believe the computered at nos 1, 2,

AFTER RECESS 3:25 P. M.

184 Q. (By Mr. Welsh.) Referring to the portion of the
statement beginning on the fifth line from the bottom
on page 2, "That while I believe the enumerated claims
1 and 2, 5 and 6 do, in fact, cover games using
television monitors or broadcast receivers with the
radio and intermediate frequency portions by-passed
or disabled --" did you rely on counsel for Sanders
for that statement?

A. I need to look at claims 1 and 2, 5 and 6.

185 Q. Do you recall now whether you relied on counsel for
Sanders for that statement at the time that you signed
the reissue declaration in April, 1974?

186 A. I do not.

Q. Would it refresh your recollection to read those
claims?

A. I believe so.

May I have the question, please?

187 Q. Did you rely on counsel for Sanders for the statement
which I quoted from the first three of the last five
lines on page 2 of the declaration, which contained
the statement, "I believe the enumerated claims 1, 2,

5, and 16 do, in fact, cover games using television monitors and broadcast receivers with the radio and intermediate frequency portions by-passed or disabled"? counsel?

A. I do not believe I relied on counsel.

188 Q. Have you had experience in reading patent claims?

A. Experience and belief some manufacturers of

189 Q. Experience in reading patent claims. taken the position

A. I am not sure what is meant by experience in 'reading patent claims. receiver' do not include either a television

190 Q. I will restate it. Have you had experience in intended interpreting patent claims to determine whether they cover specific devices?

A. I still do not understand the question. personal.

191 Q. Do you know what it means to state that a claim covers a specific device? statement?

A. I am not sure. relied on counsel.

192 Q. Did you at the time that you signed "the declaration containing the statement, "I believe the enumerated claims 1, 2, 15 and 16 do, in fact, cover certain games there specified"? Did you at that time know what it meant to say a patent claim covered a certain device? personal knowledge with respect to

A. I would have relied on counsel to explain to me how it did or why it did.

193 Q. So with respect to that statement you would have relied on counsel?

A. Yes, sir.

194 Q. With respect to the next portion of that statement, "On information and belief some manufacturers of coin-operated television games have taken the position that the terms 'standard television receiver' and 'television receiver' do not include either a television monitor or a television broadcast receiver intended to receive broadcast signals but with the radio frequency and intermediate frequency portions thereof by-passed or disabled," did you have personal

A. knowledge or did you rely on counsel for Sanders with respect to that statement?

A. I would have relied on counsel.

195 Q. With regard to the next statement, "On information and belief said letters patent is rendered partly inoperative because of unlicensed manufacture of said certain games by said manufacturers under color of claims of non-infringement," did you rely upon counsel or did you have personal knowledge with respect to

that statement?

A. I would have relied on counsel.

Q. With respect to the next statement appearing on page 3,

"That the inclusion of terms within claims of said letters patent 3659285, such as claims 2 and 6, which might form a basis for any party to take the position that those claims do not include television games using as a video display device either a television monitor or a television receiver intended to receive broadcast television signals but with the radio frequency and intermediate frequency portions thereof by-passed or disabled was through error and without any deceptive intention," did you rely on counsel for that statement?

A. May I have the question again, please?

Q. With respect to the portion I quoted, did you rely on counsel for that statement?

A. No, sir.

Q. You did not?

A. I don't believe so.

Q. What did you rely on?

A. Sir?

Q. What did you rely on as the basis for the statement?

200 A. I would have relied on counsel to have brought it to
my attention that it was not covered in the original
patent.

201 Q. So you would have relied on counsel, at least in
206 part, with respect to that statement?

A. In part.

202 Q. And what part would you not have relied on him for?

A. That it was obvious to me that the television monitor
would not have to have had a radio frequency or inter-
mediate frequency portion in order that we could play
our game on it.

203 Q. Did you have anything to do with the selection of the
207 terms to be used in the claims of patent No. 3659285,
such as claims 2 and 6?

A. The terms?

204 Q. Yes, that says, the phrase stated with, "That the
208 inclusion of terms within claims of said letters patent
3659285, such as claims 2 and 6 --" I'm speaking of
the terms referred to there. Did you have anything
209 to do with the selection of terms which were used
within claims of that patent, such as claims 2 and
210 6?

A. Not that I recall.

In respect

205 Q. So any statements with respect to what terms were
included within this declaration you would have relied
on counsel, is that correct?

211 A. Yes, sir.

206 Q. With regard to the last three lines of the first
paragraph of page 3 which state "That the failure to
212 include in said letters patent 3659285 claims in the
form of claims 13-17 of this application was through
error and without any deceptive intention," with
213 respect to that statement did you rely on counsel for
Sanders?

A. May I look at the claim 17, 13 through 17?

207 Q. Surely. They appear, I believe, in the listing of
claims just preceding the declaration.

A. I do not know how to answer that question, because I
214 don't believe I understand.

208 Q. Did you have anything to do with determining what
claims were to be included in the reissue application?

A. Directly?

209 Q. Yes.

A. Not that I recall.

210 Q. Then any statement in here with respect to what
claims were included, such as this one with respect

to that statement, you would have relied on counsel, would you not?

A. I still do not know if I understand.

Q. Did you determine what claims were to be included in the reissue application?

A. Not that I recall.

Q. Did you draft any of the claims that were to be included in the application?

A. No, sir.

Q. If you do not -- if you had nothing to do with determining which claims were to be included, then you would not have known whether it was -- whether the

A. failure to include certain claims was without deceptive intention or was through error, would you?

A. No, sir.

Q. In that event, then, you must have relied on counsel

Q. for the statement in the last three lines of the first paragraph on page 3.

MR. WILLIAMS: I believe that the last three lines of the first paragraph on page 3 relate to inclusion of claims in the letters patent.

MR. WELSH: In the application for the reissue.

MR. WILLIAMS: Perhaps we're referring to different statements. I think it says
219 "In the failure to include in said letters
patent 3652985."

MR. WELSH: You are correct.

215 Q. (By Mr. Welsh.) Did you have anything to do with
determining which claims were included in the original
patent?

220 A. No, sir.

216 Q. Then, again, with that in mind, did you not rely on
counsel of Sanders with respect to the statement in
221 the last three lines of the first paragraph of page 3?

A. Yes, sir.

217 Q. Now, if you want to hand me that --

A. (Document handed to Mr. Welsh by
222 the witness.)

218 Q. (By Mr. Welsh.) Referring now to the development
work in the TV game project, I show you what has been
223 marked in Mr. Baer's deposition as Exhibits 9-51
through 9-63 and ask if you recognize that document
as having seen it or a copy of it previously?

(Documents handed to the witness
by Mr. Welsh.)

THE WITNESS: I don't recall which page. Is it the whole document?

Q. (By Mr. Welsh.) It's the whole document, yes.

A. May I have the question again, please?

(The last question was read back by the reporter.)

THE WITNESS: I recall having seen portions of it.

Q. (By Mr. Welsh.) Under what circumstances?

A. Sometime back, perhaps with Mr. Baer or with Mr. Rusch, especially the pictures on page 9-51 and 9-53.

Q. Do you recall whether it was just laying on someone's desk or was it handed to you by someone? How did you happen to see those pictures?

A. I do not recall.

Q. Was a copy of this laying around loose in the room where you worked?

A. I do not recall.

Q. Is that all you recall seeing about it were the pictures on the pages 9-51 and 9-53?

A. The baseball on page 9-57, the baseball skill game appears familiar to me. I believe I would have been shown this by Mr. Rusch, as I recall. On page 9-59

A. the paragraph under heading 16, hares and hounds game is familiar, because I know we had a game similar to that.'

Q. But do you know whether your familiarity was from having seen it here or because there was such a game?

A. I do not recall.

Q. Do you recall when Mr. Rusch came to work on the TV project?

A. I do not recall.

Q. Do you recall whether it was at the same time that you went to work on it or was it afterward?

A. I do not know when he came on board the program, but I was not aware of it until after I came on the program.

Q. When he did come to work on the program was he spending full time on it in the same room as you were?

A. I do not recall.

Q. Was it shortly after you went to work on the program

A. that you became aware of his working on the program or was it sometime after that?

A. I don't recall, sir.

Q. Do you have any idea as to when you might have seen

A. this document, Exhibit 9-51 to 9-63?

235 A. No, sir.

(Document handed to Mr. Welsh by the witness.)

230 Q. (By Mr. Welsh.) Returning now to the development work which you did in the TV game project, I believe you were discussing Exhibits 16-30 and 31 as well as Exhibit 23-78 regarding obtaining a split field with color present in the white area. What happened next in the TV game development?

MR. WELSH: Off the record.)

(Discussion off the record.)

THE WITNESS: Apparently, the next event that took place was to take the split field control mechanism, make the first game called the pumping contest out of it.

231 Q. (By Mr. Welsh.) Was that actually done?

A. Yes, sir.

232 Q. And where is that referred to in your notes?

A. Exhibit 16, page 32.

233 Q. Anywhere else?

241 A. Exhibit 23, page 26.

234 Q. What did the pumping game consist of?

A. Do you mean playing the game or --

235 Q. Yes, how did it appear to an observer?

A. There were two buttons under two wooden handles, as
236 I recall, and one button would be integrating a
capacitor positively to either move the split field
up or down, and the other would be doing just the
237 opposite. It was a race as to who could push the
button the fastest.

238 Q. Is there an entry at the top of page 33 relating to
that game?

A. Yes, sir, there is.

239 Q. Does that indicate that the game actually was played?

A. Yes, sir.

240 Q. Do you recall playing that game?

A. Yes, sir.

241 Q. Was that -- did you consider it a significant event
in the TV game development?

242 A. Yes, sir.

243 Q. Prior to this time had you done any work with
respect to producing a movable dot?

A. Prior to this program?

244 Q. No, prior to the time that the pumping game was played
245 on May 18, 1967, as indicated on page 33 of Exhibit 16.

I call your attention to Exhibits

246 Q. And did you succeed in that effort? That's dealt
with, is it not, on page 27 of Exhibit 23?

254 A. I do not recall. I do not recall, but I believe I
may have. Exhibit 23, page 27 indicates to me that
I did.

247 Q. The entry on page 32 in the lower left corner
indicates a date, 5-16-67, which is different from
the 5-17-67 date of page 32. Also, that lower
left entry appears to have a line drawn around it
and contains the name R. H. Baer in parentheses.
250 Did you make that entry, first of all?

A. That is my writing.

248 Q. Was that idea expressed there yours?

A. No, sir.

249 Q. Where did you get the idea?

250 A. It would have been Mr. Baer.

250 Q. Do you recall how he transmitted that idea to you?

A. I do not recall.

251 Q. Referring to pages 24, 25, 26, 27 and 28, were those
ideas yours?

A. No, sir.

252 Q. Whose ideas were those?

A. Mr. Baer's,

253

Q. How do you know that?

A. From his signature, and I am sure that he had me log these in this book.

254

Q. You recall that they were not your ideas?

A. I'm sure they were not my ideas.

255

Q. I don't understand, so I'll ask the question again. How are you sure they were not your ideas?

A. I have no recollection of thinking up these games, and my name is not signed to it.

256

Q. Did Mr. Baer sign other pages where your name was signed to it?

260

A. Yes, sir.

257

Q. Does the fact that your name appears indicate that the idea on those other pages were yours?

A. The ideas were mine?

258

Q. Yes, you said that the idea that were depicted on

A. pages 34 through 38 of Exhibit 16 were not yours,

262

Q. and you were sure they were not because your name did not appear on those pages along with Mr. Baer's name, is that correct?

A. That is correct.

259

Q. My question now is: on the pages where your name does appear, even though Mr. Baer's name is on there,

does that appearance of your name signify that the ideas on that page were yours?

MR. WILLIAMS: Well, I object to the question. It calls for a conclusion as to many pages of this notebook. I think it would be different as to different pages.

MR. WELSH: Well, he was very sure that when his name did not appear that the ideas were not his. I am simply asking that where his name does appear, does that signify that they were your ideas?

THE WITNESS: No, sir.

Q. (By Mr. Welsh.) Is there any significance to the appearance of your name on any of those pages?

A. That I had entered the data on that page and had signed the page.

Q. Did you not make the entries on pages 34 through 38?

A. Yes, sir.

Q. Do I understand correctly, then, that whether or not your name appears, it is not related to whether or not you made the entries?

A. The pages which have entries that signify ^{my} ~~file~~ work or design data that I did bear my signatures. If I had just copied some data from a piece of ^{my} ~~paper~~ that

belonged to Mr. Baer, I did not sign those pages.

263 Q. That was true, was it not, of the information placed
on the first eight pages of that notebook, Exhibit 16?

264 A. That is true, sir.

264 Q. I show you now Exhibit 9-64 to 9-68 and ask if you
recognize those?

270 (Documents handed to the witness
by Mr. Welsh.)

THE WITNESS: I've seen these
before.

275 Q. (By Mr. Welsh.) Were those the source of the informa-
tion which you placed on Exhibit 34 to 38?

A. Yes, sir.

276 Q. Would you now tell us what happened next in your work
with respect to the TV game project?

A. Exhibit 23, page 28 indicates that I was at least
thinking on paper about a color-catching contest.

273 A. Apparently, that's as much as I did on it.

267 Q. Was this something that you thought of yourself or
274 something that was suggested to you?

A. I do not recall.

268 Q. Would you go on?

A. Exhibit 23, page 29 is, apparently, more thinking

on paper about the color-catching contest. I do not recall it at this time, but the next event to take place was the work on the car ride, race.

Q. Where do you find the entries related to that?

A. Exhibit 16, page 39, page 40 and 41, and Exhibit 23, page 30, 32.

Q. ^{9/28/76} ^{Did} ~~Do~~ you actually construct circuitry for playing a car race game?

A. Exhibit 16, page 41 indicates the circuit has been tested and performs as intended.

Q. What was the intent with respect to how that car race game appeared to an observer?

A. I'd have to study it further to remember.

Q. You have no recollection?

A. That a waving picture either would be in some vertical motion slowly to indicate a road that was curvy passing over the screen.

Q. Was there any image of a car?

A. I do not recall, sir.

Q. What happened next in your work in the TV game project?

A. I do not recall. However, on Exhibit 16, page 41 it indicates that I made a circuit that would change color after a predetermined time period.

- 275 Q. You say 16-41 indicates that you made this. Do you
believe that you made such a circuit?
- 276 A. Yes, sir.
- Q. What was the purpose of making that circuit?
- A. The purpose was to have a split field screen change
color after a predetermined time.
- 277 Q. Now, is that the same kind of split field you were
describing earlier where you saw one color, which
was over the white portion, and then the other part
was black?
- A. That is correct, sir.
- 278 Q. Now, you had already had provision for changing
color manually, did you not?
- A. Yes, sir.
- 279 Q. This, then, was an automatic change of color after a
certain time?
- A. That is correct, sir.
- 280 Q. Why did you want to do that?
- A. Does that question relate to the time that I did this
or now, looking back and knowing?
- 281 Q. Well, now, if you can recall by looking back, why was
it being done at the time, if you recall?
- 286 A. For a future game.

282 Q. What game was that?

A. Firefighter.

283 Q. How did the automatic change in color relate to the
284 future firefighter game? That is, the game in the
future after this?

A. As I recall, we had a picture of a house with
windows and, perhaps, door. I forget exactly what
it looked like. And we had a blue field displayed or --
I take that back. A blank field displayed, and as you
pumped, a blue field would appear, and the idea was,
as I recall, to get the blue field up past the highest
window or door opening before it flashed red.

284 Q. Is that game set forth in the right side of page 35
of Exhibit 16?

A. Yes, sir, it is.

285 Q. What happened next in your work on the TV game project?

A. I do not recall. However, Exhibit 16, page 42 indicates
that Mr. Baer requested that I build additional
horizontal and vertical delay multivibrators to enable
two operators via individual sets of controls to move
about the C.R.T. screen two independent color squares
or rectangles which are variable in size.

286 Q. Had you prior to that time built any circuitry for

generating squares as distinguished from a line or a split screen?

A. Not that I recall.

287 Q. Did you or did Mr. Baer say why he desired circuitry for two operators to move two independent colored squares?

A. I do not recall it at this time, but I'm sure he did.

288 Q. Might it have been for playing some other game than the ones that he had already noted to you?

A. I'm sure it was.

MR. WELSH: I see it is 5:00 o'clock. Let's break for the day. We said 9:30, didn't we, for tomorrow morning?

MR. WILLIAMS: I don't know, but that's fine with me.

MR. WELSH: Back on the record. I don't think we have any place Mr. Williams noted our understanding that we had over the telephone with respect to scheduling Mr. Seligman and Mr. Etlinger, and I just wanted to be clear on the record. As I understand it, you have agreed, due to scheduling problems of Mr. Etlinger, Mr. Anderson, making it difficult to schedule the depositions of Mr. Seligman

and Mr. Etlinger prior to April 1, that you agree that we may take those after April 1 even though that is the day of the discovery cut-off. I believe the week of the 5th of April.

MR. WILLIAMS: That's right. Part of the problem is, of course, not only the scheduling of Mr. Etlinger and Mr. Anderson, but also an attempt to arrive at a suitable time was made prior to last week, I believe, and it turns out that we do have a problem this week and the next week, and we have agreed that we can take those two depositions after the 1st of April.

MR. WELSH: O. K.

William L. Hornum
Deponent

THE STATE OF New Hampshire
COUNTY OF Hillsborough) SS.

Subscribed and sworn to before me this 13th
day of May, 1976.

Marilyn E. Trapala
Notary Public

My Commission Expires March 19, 1980

Marilyn E. Trapala
~~Justice of the Peace and/or~~
Notary Public